

4. An orthodontic bracket as defined in claim 3 wherein said locking shutter is pivotally connected to said body.

5. An orthodontic bracket as defined in claim 2 wherein said leaf spring is located on said locking shutter between said gingival and occlusal tie wings.

6. An orthodontic bracket as defined in claim 2 wherein said leaf spring extends mesiodistally and is secured to said locking shutter intermediate its ends, said leaf spring having respective mesial and distal formations thereon extending into said archwire slot when said shutter is in a closed position.

7. An orthodontic bracket as defined in claim 2 wherein said biasing means is in the form of a resilient spring member secured to said locking shutter, said spring member extending occlusogingivally.

8. An orthodontic bracket as defined in claim 7 wherein said spring member includes an outwardly convex portion intermediate its length extending lingually into said archwire slot when said locking shutter is in said closed position.

20 9. An orthodontic bracket as defined in claim 1 wherein said locking shutter is formed of resilient material and is engageable with an archwire in said archwire slot when in said closed position thereby to constitute said biasing means.

25 10. An orthodontic bracket for attaching an archwire to a tooth comprising:

a body having a lingual surface for attachment to a tooth, a pair of laterally spaced gingival tie wings and a pair of laterally spaced occlusal tie wings, said gingival and occlusal tie wings projecting from a labial surface of said body, both said gingival tie wings and occlusal tie wings at opposed mesial and distal sides of said body being separated by an interwing region of said body;

30 an archwire slot extending mesiodistally across said body and between the gingival and occlusal tie wings at opposed mesial and distal sides of said body to

accommodate an archwire, said archwire slot being interrupted by said interwing region;

a locking shutter movable relative to said body between an open position in which placement and removal of said archwire in said archwire slot is facilitated and a closed position in which placement and removal of said archwire from said archwire slot is inhibited; and

biasing means engageable with an archwire in said archwire slot when said locking shutter is in said closed position to urge said archwire towards said locking shutter to provide a continuous corrective force thereon.

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11. An orthodontic bracket as defined in claim 10 wherein said biasing means is in the form of a resilient spring member extending mesiodistally along said archwire slot, said spring member being secured to said body and having at least one free end.

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12. An orthodontic bracket as defined in claim 11 wherein said spring member has a central portion secured to said body and labially curved wings at opposed ends of said central portion to contact said archwire and urge resiliently said archwire toward said locking shutter.

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13. An orthodontic bracket as defined in claim 12 wherein the length of said spring member is less than or equal to the length of said archwire slot so that said curved wings contact said archwire within said archwire slot.

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14. An orthodontic bracket as defined in claim 12 wherein the length of said spring member is greater than the length of said archwire slot, said labially curved wings contacting said archwire exterior to said archwire slot.

15. An orthodontic bracket as defined in claim 11 wherein said spring member is generally convex and is secured to said body adjacent one end thereof.

16. An orthodontic bracket as defined in claim 15 wherein the length of said spring member is less than or equal to the length of said archwire slot so that said spring member remains in said archwire slot when partially flattened by an archwire in said archwire slot.

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17. An orthodontic bracket as defined in claim 10 wherein said biasing means is in the form of a generally convex resilient spring member secured to said body adjacent one end thereof, said spring member extending occlusogingly in said interwing region.

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18. An orthodontic bracket as defined in claim 10 wherein said biasing means includes magnetized elements within said body adjacent to at least a lingual wall of said archwire slot to present a magnetic field in said archwire slot, said archwire being magnetized to the same polarity as said magnetic field so that said magnetic field urges said archwire toward said locking shutter when placed in said archwire slot.

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19. An orthodontic bracket as defined in claim 10 wherein said biasing means is in the form of a pair of spring loaded pistons accommodated by said body adjacent opposed mesial and distal ends of said archwire slot, said spring loaded pistons acting on said archwire to urge said archwire toward said locking shutter.

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20. An orthodontic bracket as defined in claim 19 wherein each of said pistons includes a piston head sized to inhibit said archwire from moving behind said piston head.

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21. An orthodontic bracket as defined in claim 10 wherein said biasing means is in the form of resilient spring members secured to said body and engageable with an archwire passing through said archwire slot at mesial and distal locations exterior to said archwire slot.

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22. An orthodontic bracket as defined in claim 21 wherein said resilient spring members are in the form of labial wings extending from opposed ends of a central strap secured to said body.
- 5 23. An orthodontic bracket as defined in claim 21 wherein each of said spring member is secured to an opposed side of said body and contacts said archwire at a lateral angle greater than 90°.
- 10 24. An orthodontic bracket as defined in claim 17 wherein said spring member is accommodated by a generally vertical slot in said body lingual to said archwire slot, said vertical slot opening up into said archwire slot in said interwing region.
- 15 25. A pre-engaging orthodontic bracket for attaching an archwire to a tooth comprising:
a body having a lingual surface for attachment to a tooth, a pair of laterally spaced gingival tie wings and a pair of laterally spaced occlusal tie wings, said gingival and occlusal tie wings projecting from a labial surface of said body, both said gingival tie wings and occlusal tie wings at opposed mesial and distal sides of said body being separated by an interwing region of said body;
an archwire slot extending mesiodistally across said body and between the gingival and occlusal tie wings at opposed mesial and distal sides of said body to accommodate an archwire, said archwire slot being interrupted by said interwing region; and
20 a locking shutter pivotal about at least one pivot pin between an open position in which placement and removal of said archwire in said archwire slot is facilitated and a closed position in which placement of said archwire in said archwire slot is inhibited.
- 25 30 26. An orthodontic bracket as defined in claim 25 wherein said pivot pin extends between the tie wings of one of said pair and wherein said locking shutter includes a single loop at one end thereof to surround said pivot pin.

27. An orthodontic bracket as defined in claim 25 wherein said locking shutter includes a pair of laterally spaced, single loops surrounding said pivot pin.
- 5 28. An orthodontic bracket as defined in claim 25 wherein said locking shutter further includes a marker thereon to identify generally the center of said archwire slot when said locking shutter is in said closed position.
- 10 29. An orthodontic bracket as defined in claim 25 further including a lubricating or sealing agent carried by one or more of said body, locking shutter and archwire.
30. An orthodontic bracket as defined in claim 25 wherein at least one of said gingival tie wings has at least one groove formed therein.
- 15 31. An orthodontic bracket as defined in claim 25 further including a locking mechanism acting between said body and said locking shutter to maintain said locking shutter in said closed position.
- 20 32. An orthodontic bracket as defined in claim 31 wherein said locking mechanism includes a pair of spaced projections extending from said body and an opening in said locking shutter, said projections being flexed together when accommodated by said opening.
- 25 33. An orthodontic bracket as defined in claim 31 wherein said locking mechanism includes a bulbous lip formed on said body, said locking shutter curving lingually and occlusially at its free end to engage said lip when said locking shutter is in said closed position.
- 30 34. An orthodontic bracket as defined in claim 33 wherein said locking shutter curves lingually and occlusially at its free end and wherein said locking mechanism is constituted by co-operating wedge shaped formations on said body and said free end.

35. An orthodontic bracket as defined in claim 31 wherein said locking mechanism includes a spring member carried by said locking shutter, said spring member acting between said locking shutter and pivot pin to bias said locking shutter into retaining notches formed in the tie wings of one of said pair.
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36. An orthodontic bracket as defined in claim 31 wherein said locking mechanism includes a stop on said body and a wedge on said locking shutter to abut said stop when said locking shutter is compressed and moved to said closed position.
- 10 37. An orthodontic bracket as defined in claim 31 wherein said locking mechanism includes a spring-loaded piston accommodated by a tie wing and extending into said interwing region.
- 15 38. A body for an orthodontic bracket having a mesiodistally extending archwire slot formed therein and gingival and occlusal surfaces shaped to deflect food debris and plaque mesially and distally therefrom when secured to a tooth.
- 20 39. A body as defined in claim 38 wherein said gingival surface is generally egg-shaped and wherein said occlusal surface is undulated to present a pair of oppositely directed curved lateral faces.
- 25 40. A set of braces including a plurality of orthodontic brackets to be attached to an individual's teeth, said braces including self-engaging twin orthodontic brackets to be attached to the central and lateral teeth and first and second molars of said individual and single orthodontic brackets to be attached to the cuspid and premolar teeth of said individual.